

1    CLAIMS

2

3    We claim:

1           1.     A method comprising:

2                 generating a first key component;

3                 generating an encryption key using the first key component, a token

4    key and a personal identification number (PIN);

5                 encrypting data using the encryption key;

6                 sending the data encrypted with the encryption key to a server along

7    with the first key component.

1           2.     The method defined in Claim 1 further comprising receiving

2    the token key from a service provider.

1           3.     The method defined in Claim 1 further comprising the server

2    storing the first key component and the data encrypted with the encryption

3    key.

1           4.     The method defined in Claim 1 wherein the token key is  
2     unique for each user.

1           5.     The method defined in Claim 1 wherein the first key  
2     component is unique for each data entry stored by the server.

1           6.     A method comprising:  
2         encrypting data using the encryption key generating using a first key  
3     component, a token key and a personal identification number (PIN);  
4         storing data encrypted using the encryption key; and  
5         regenerating the encryption key after accessing the encrypted data to  
6     decrypt the encrypted data therewith.

1           7.     The method defined in Claim 6 further comprising disabling  
2     the token.

1           8.     The method defined in Claim 7 wherein the token is disabled if  
2     lost.

1           9.     The method defined in Claim 7 wherein the token is disabled if  
2     compromised.

1           10.    The method defined in Claim 7 further comprising re-enabling  
2     the token.

1           11.    The method defined in Claim 6 wherein the token ID  
2     comprises an alpha-numeric string.

1           12.    The method defined in Claim 11 wherein the token key  
2     comprises a randomly generated number.

1           13.    The method defined in Claim 11 wherein either or both of the  
2     token key and PIN comprises biometric data.

1           14.    The method defined in Claim 11 wherein the token key is the  
2     same for all tokens used by the user.

1           15.    The method defined in Claim 6 further comprising:

- 2 monitoring browsing activities;
- 3 identifying web pages containing a form; and
- 4 inserting content into the form.

1 16. The method defined in Claim 15 wherein inserting content into  
2 the form is performed automatically.

1 17. The method defined in Claim 15 wherein inserting content into  
2 the form is performed with user confirmation.

1 18. The method defined in Claim 15 further comprising allowing a  
2 user to select the form to fill in.

1 19. The method defined in Claim 15 further comprising allowing a  
2 user to select a variant of the form to fill in.

1 20. A method comprising:  
2 retrieving a key component and encrypted data from a server;

3 recreating an encryption key using the key component, a token key  
4 and a personal identification number (PIN); and  
5 performing a decryption operation on the encrypted data using a  
6 decryption key based on the encryption key used to encrypt the encrypted  
7 data.

1 21. A method for authentication comprising:  
2 generating authentication data for a user based on a token key and a  
3 personal identification number (PIN), the token key being unique to the  
4 user; and  
5 receiving a confirmation indicating that the authentication data has  
6 been verified.

1 22. A method comprising:  
2 accessing encrypted data from a server;  
3 decrypting the encrypted data using a token and a user-specific PIN  
4 to be accessed.

23. The method defined in Claim 22 wherein the token comprises  
a token identifier (ID) and a token key.

1           24.     The method defined in Claim 22 wherein the token comprises  
2     a utility to manage data depending on data type.

1           25.     The method defined in Claim 24 wherein the utility operates  
2     on data in response to explicit user command or by automatically  
3     monitoring applications producing and/or consuming data of that type.

1           26.     The method defined in Claim 25 wherein the utility handles  
2     password data.